



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR.	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	-----------------------	---------------------	------------------

10/749,303

12/30/2003

Su-Hwan Oh

51876P551

1727

8791

7590

11/03/2005

BLAKELY SOKOLOFF TAYLOR & ZAFMAN
12400 WILSHIRE BOULEVARD
SEVENTH FLOOR
LOS ANGELES, CA 90025-1030

EXAMINER

UNELUS, ERNEST

ART UNIT

PAPER NUMBER

2828

DATE MAILED: 11/03/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/749,303

Applicant(s)

OH ET AL.

Examiner

Ernest Unelus

Art Unit

2828

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 May 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12/30/05 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>12/30/03, 10/15/04</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-12 are rejected under 35 U.S.C. 102(e) as being anticipated by Ryu et al. (US 2002/0181532).

With respect to claims 1, 6, Ryu discloses a tunable sampled-grating distributed feedback laser diode provided with a first gain region (section A) and a second gain region (section B) adjacent to each other, comprising: a first SG-DFB structure member formed thereon a first phase control region between first sampled-gratings and the first sampled-gratings having a first period formed on the first gain region; and a second SG-DFB structure member formed thereon a second phase control region between second sampled-gratings and the second sampled-gratings having a second period formed on the second gain region, wherein the tunable sampled-grating distributed feedback laser diode tunes the wavelength of laser generated in response to a reflection change of the first and the second phase control regions (see figures 2A and 2B) (see paragraphs 0042 to 0044).

With respect to claims 2 and 8, Ryu discloses a period of the first sampling-grating and a period of the second sampled-grating are configured different from each other and periods diffraction gratings of the first and the second sampled-grating are constructed identically (see paragraph 0021).

With respect to claim 3, Ryu discloses wherein reflection changes of the first phase control region and the second phase control region are obtained by changing the amount of current applied to the first phase control region and the second phase control (see paragraph 0053).

With respect to claims 4 and 10, Ryu discloses wherein a wavelength of the oscillating laser is incontinuously changed by varying the reflective indexes of the first phase control region or the second phase control region (see figure 2B) (see paragraphs 0042 to 0044).

With respect to claims 5 and 11, Ryu discloses wherein a wavelength of the oscillating laser is continuously changed by varying the reflective indexes of the first phase control region and the second phase control region in the same size (see figure 2B) (see paragraphs 0042 to 0044).

With respect to claims 7 and 12, Ryu discloses a tunable sampled-grating distributed feedback laser diode for tuning a wavelength of an oscillating laser, comprising: a substrate (11) provided with a first region (A) and a second region (B) adjacent to each other; a wave guide layer (13) formed on the first region and the

second region of the substrate; a multiple quantum well active layer (21) formed the wave guide layer by a predetermined distance for providing a plurality of phase control regions; a first sampled-grating region having a first period and the phase control region formed between the sampled-grating; a second sampled-grating region having a second period and the phase control region formed between the sampled-grating (see fig. 2A); a clad layer (14) formed on the wave guide layer (13); a first phase control electrode formed on the clad layer of the first region for supplying a current to the phase control region of the first region; a second phase control electrode formed on the clad layer of the second region for supplying a current to the phase control region of the second region; a first gain region electrode formed on the clad layer of the first region for supplying a current to the wave guide layer except the phase control region of the first region; and a second gain region electrode formed on the clad layer the second region for supplying a current to the wave guide layer except the phase control region of the second region (see paragraph 0053 and 0054) (see fig. 4).

With respect to claim 9, Ryu discloses that the substrate (13) is an n type InP substrate (see paragraph 0033), the wave guide layer (13) made of a material such as InGaASP (see paragraph 0049), and the clad layer (14) is a p type InP (see paragraph 0033).

Conclusion

The prior art made of record and not relied upon is considered pertinent to

Art Unit: 2828

applicant's disclosure.

Delorme et al. (US pat. 5,748,660) discloses a tunable distribution feedback semiconductor laser with a multiple quantum well structure without specifically indicating the electrodes.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ernest Unelus whose telephone number is 571-272-0218. The examiner can normally be reached on 9:00am to 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Minsun Harvey can be reached on 571-272-1835. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


ZANDRA V. SMITH
PRIMARY EXAMINER

E.U